

POWER CONVERSION APPARATUS AND METHODS USING DC BUS SHIFTING

ABSTRACT OF THE DISCLOSURE

A power converter apparatus, such as a double-conversion or line-interactive UPS, includes first and second DC voltage busses and a polyphase DC to AC converter circuit coupled to the first and second DC voltage busses and operative to generate a polyphase AC output. The apparatus further includes a control circuit
5 operatively associated with the polyphase DC to AC converter circuit and configured to shift a DC voltage range of the first and second DC voltage busses with respect to a reference voltage responsive to a relationship among phase components associated with the polyphase AC output. The components may include, for example, actual phase voltages or modulation commands (e.g., count values) from which the
10 polyphase AC output is generated. The reference voltage may be a neutral voltage, e.g., a voltage of an actual neutral of a load receiving the AC output or a synthetic neutral voltage.